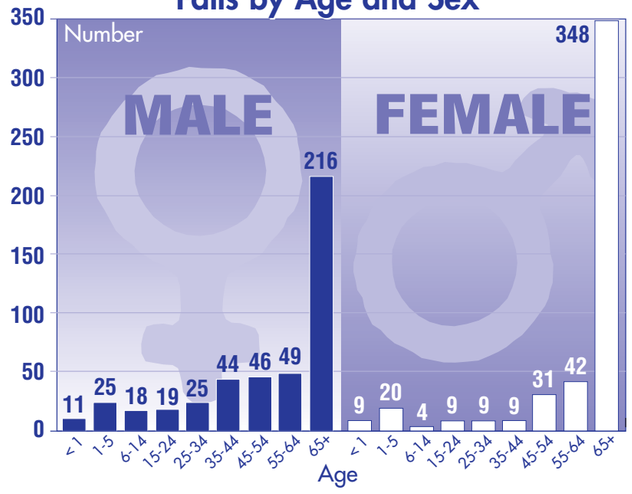
Females are less likely than males to suffer a fall related head injury for all age groups through age 64. Of the total traumatic brain injuries due to falls, 60.4 percent were from the age group 65 years old and older. Of the 481 females who suffered a head injury due to a fall, 72.3 percent were 65 years old or older, compared to 47.7 percent of the 453 males.

Approximately 3.0 percent of the accidental falls causing a head injury were work related.

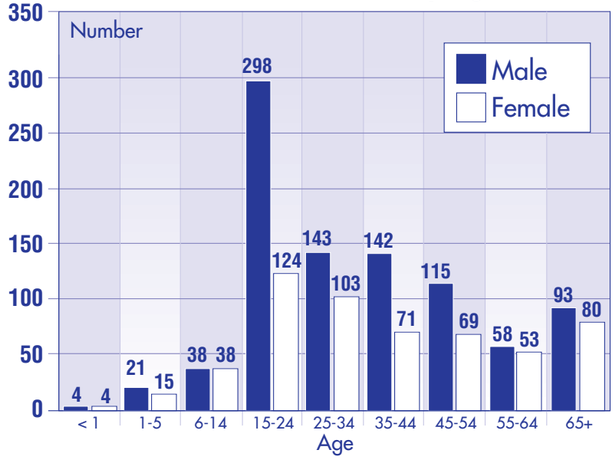
Of the 912 males who were involved in a motor vehicle accident, 32.7 percent were ages 15 to 24 years compared to 15.7 percent in ages 25 to 34 years. These two age groups accounted for approximately half of the total motor vehicle injuries. For both males (32.7 percent) and females (22.3 percent), there were more injuries in the 15 to 24 year age group than any other group.

Work-related accidents accounted for 1.3 percent of the total motor vehicle accidents. Of the total head injuries from motor vehicle traffic accidents, 6.9 percent resulted in a severe brain injury; 33.5 percent was classified as moderate; 46.2 percent was classified as mild; and the severity for 13.4 percent was undetermined.

Falls by Age and Sex



Motor Vehicle Traffic Crashes by Age and Sex



When all cases were included, 27.1 percent of the individuals with severe brain injuries were hospitalized more than seven days, compared to 31.0 percent of the individuals with injuries considered to be moderate, and 13.1 percent for those with mild injuries. For cases where severity was undetermined, 14.2 percent were hospitalized more than seven days.

When individuals who died are excluded from the analysis, 86.4 percent of people with severe brain injuries were hospitalized more than seven days, while the percent of individuals with lesser injuries showed little change.

Approximately 60 percent of the cases with hospital stays of more than 7 days were considered to have moderate brain injuries.

The length of stay could be affected by other injuries that occurred during the accident. The severity index by itself should not be used as a predictor or indicator of length of stay.

Severity of Injury by Length of Stay

			Severe		Moderate		Mild		Undetermined	
Length of Stay	Total	Died	Total	Died	Total	Died	Total	Died	Total	Died
Less than 24 hrs.	122	119	72	71	19	17	6	6	25	25
1 Day	613	69	42	42	150	20	321	3	100	4
2 Days	535	23	15	13	201	10	253	0	66	0
3 Days	385	18	9	8	159	9	159	1	58	0
4 Days	303	11	5	4	141	5	105	1	52	1
5 Days	209	12	7	7	107	4	67	0	28	1
6 Days	137	10	4	3	70	6	46	0	17	1
7 Days	128	10	5	3	65	6	42	1	16	0
8 to 14 Days	368	19	10	4	217	14	104	1	37	0
15 to 21 Days	135	13	16	2	85	8	22	3	12	0
22 to 28 Days	80	4	13	0	51	1	11	2	5	1
29 Days or more	96	6	20	2	56	3	14	1	6	0
TOTAL	**3111**	**314**	**218**	**159**	**1321**	**103**	**1150**	**19**	**422**	**33**

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Tennessee Traumatic Brain Injury

2003

January - June

A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

Tennessee Department of Health
Policy, Planning, and Assessment
Health Statistics
January - June 2003

Introduction

The enabling legislation establishing the traumatic brain injury registry was signed into law in May, 1993. As written, the initial legislation prohibited health care providers from reporting case information without written consent of the patient. An amendment was passed in May, 1996 resolving this issue. Data collection officially began with patients discharged during 1996. The hospitals report information on inpatients, with specific ICD-9 CM diagnosis codes, whose admission and discharge dates are different (where length of stay was 24 hours or more) and for those individuals who died. Patients seen in emergency rooms who were sent home the same day or length of stay was less than 24 hours are not included in the registry.

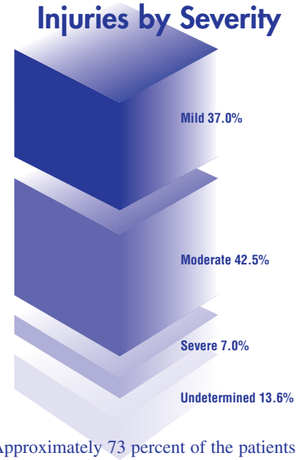
A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

Based on the ICD-9-CM diagnosis codes, 37.0 percent of all patients experienced a "mild" injury. The injuries considered "moderate" made up 42.5 percent while 7.0 percent were considered "severe". Four hundred twenty-two (422) cases, or 13.6 percent had an insufficient clinical description and the severity for these cases was undetermined.

The severity index is based on the clinical diagnosis of the injury.

Seventy-four percent of the patients (excluding the patients that died) were discharged for home care requiring non-skilled or some degree of skilled assistance. This indicates a tremendous burden on the families and communities of the brain injured survivors.

Injuries by Severity



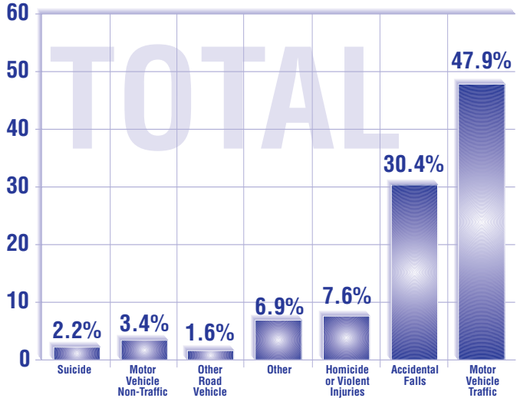
Approximately 73 percent of the patients with a severe traumatic brain injury died. This category represents 50.6 percent of the total patients that died.

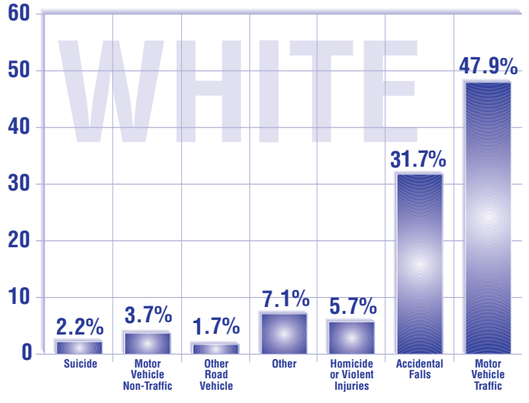
An external cause of injury permits the classification of environmental events, circumstances, and the conditions as the cause of injury. An external cause of injury was reported for 98.7% (3,070) of the 3,111 persons treated in Tennessee. The data presented by race represents 2,672 white and 287 black cases.

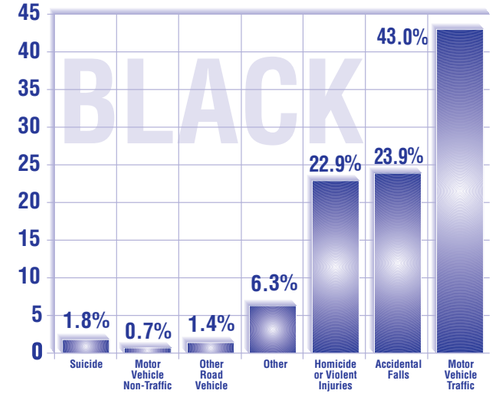
The leading cause of traumatic brain injuries, 47.9 percent (includes only cases with external cause of injury reported) was motor vehicle traffic accidents. Accidental falls accounted for 30.4 percent. Homicide or violent deaths, which includes injury undetermined whether accidentally or purposely inflicted, and legal intervention accounted for 7.6 percent of the total injuries.

For whites, the leading cause of traumatic brain injury was motor vehicle traffic accidents with 47.9 percent. The second leading cause of injury was accidental falls with 31.7 percent. The third leading cause was other accidents at 7.1 percent.

The leading cause of head injury for blacks (43.0 percent) was motor vehicle traffic accidents. Accidental falls were the second leading cause of injury with 23.9 percent. The third leading cause of injury for blacks was homicide or violent injuries with 22.9 percent.







For patients with a moderate brain injury (excluding deaths) 65.5 percent were discharged for home care requiring non-skilled or some degree of skilled assistance. Those discharged to residential facilities with or without skilled nursing services accounted for 12.8 percent and 16.4 percent were discharged to an inpatient rehabilitation facility.

Excluding deaths, 84.7 percent of the patients with a mild brain injury were discharged to home care requiring non-skilled or some degree of skilled assistance.

Hospital Discharge Status by Severity of Injury

Discharge Status	Total	Severe	Moderate	Mild	Undetermined
Transferred to acute care hospital	41	0	27	12	2
Home - self care	1,798	14	673	833	278
Home - requiring non-skilled assistance	140	0	63	74	3
Home - health services or outpatient rehab	133	5	62	51	15
Residential facility w/o skilled nursing	42	1	14	13	14
Residential facility with skilled nursing	234	18	142	44	30
Inpatient rehab facility	322	20	200	71	31
Patient died	314	159	103	19	33
Other	87	1	37	33	16
Total	3,111	218	1,321	1,150	422

Injuries by Age and Sex

For all ages except 65 and older, males are more likely to suffer a head injury than females. This is primarily due to traffic accidents. At age 65 and older, females experience more injuries due to falls. Further analysis of the data revealed that 33.3 percent of the (51) patients less than one year of age suffered a brain injury due to homicide or an injury purposely inflicted by other persons.